CONNX 14.6

Release Notes
October 7, 2021

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CONNX 14.6 Release Notes

Product Installation

The CONNX product installation is available in the Software Download Center (SDC) in Empower: https://empower.softwareag.com (login required). Please consult the file Installation instructions can in the Installation Guide located on the Empower web site.

Default Ports

The following is a list of 32- and 64-bit components and the default ports they listen on:

Component Name	Default Port
32-bit Enterprise Server Service	6500
64-bit Enterprise Server Service	6502
32-bit JDBC Server	7500
64-bit JDBC Server	7502
License Server	7501
InstantdbSync Message Queue	9200
InstantdbSync Controller	9205
JMS Server	7600
CONNX REST Server	9500

If CONNX is installed in an environment where a firewall is present, these ports need to be opened.

Changes/Bug Fixes for CONNX 14.6

Critical Changes

Please take special note of the following corrections and changes (listed below as well) as they may cause a change in expected behavior.

- The DataSync REST Server is now part of the overall CONNX REST Server.
- The DataSync Web Interface is still used, but it is now accessed from the CONNX Web Interface, which after logging in has option to choose DataSync.
- The DataSync Classic is still included even though it is deprecated.
- The DataSync REST Server security api calls have been replaced by the CONNX REST server security api calls and are no longer needed.
- DataSync Web Server security settings will be migrated to the new CONNX REST Server on install.
- SSIS components for SQL Server 2005 and 2008 have been discontinued. They relied on Microsoft components that are past end of life and deemed a possible security risk and are not allowed to be redistributed anymore.

New Features

- Added a CONNX REST Interface that can be called from the new CONNX Web Interface or from any REST application.
- Added a CONNX Web Interface that includes the existing DataSync Web Interface and a preview of the Data Dictionary Manager Web Interface.
- The Data Dictionary Manager Web Interface is a preview and does not have all the functionality of the windows Data Dictionary Manager.
- Because the Web version of the Data Dictionary Manager is a preview on not fully functional, the windows version is still the primary tool to use when creating and editing data dictionaries.
- Added SSL support for PostgreSQL data sources.
- Partition Table support for Adabas.
- Bulk Delete support as well as bulk inserts or updates for non-relational data sources.

- When importing a database using a file that has an "OCCURS" statement in it (e.g. CISAM COBOL FD files import with a copybook file), setting "REMOVELEADINGZEROS" to 1 under the CONNXCDD\OPTIONS key will remove leading zeros from the column name. For example, with this setting set to 1, COLUMNNAME_00001 will become COLUMNNAME_1. The default for this setting is 0. In other words, leading zeros will not be removed.
- Added feature to enable parallel database access for Adabas with identically structured databases.

Known Issues in CONNX 14.6

- The new web Data Dictionary Manager does not have all the functionality of the windows Data Dictionary Manager. The web version is a preview of what will be included in a future release.

Resolved Issues in CONNX 14.6

These are the major issues that were resolved and features that were added in CONNX 14.6:

CONNX client/server

- Fixed problem with DBMS not returning values when using any operator other than like, and the constant value contains _ or %.
- Fixed memory overwrite in Unicode handling.
- Fixed issue with CISAM not statically linking C++ runtime on AIX.
- Fix for problem where statements were not being closed using the wire protocol. Also fixed problem where IP addresses were not working (they were being treated like host names) with the wire protocol driver.
- Added logic to check whether a socket connection in the pool is "dead" upon reuse - if it is dead, the socket will be closed and it will continue searching.
- Fix for mainframe module check code.
- Fix for memory overwrite problem with parsing of C style comments in SQL /* */.
- Fix for problem where conversion from Unicode to Shift-JIS resulted in a different length and caused data to be truncated.
- Fix for memory overwrite when "incorrect" Japanese data is sent in SQL string.
- Fix for RMS empty file detection logic.
- Replaced gethostbyname in core with getaddrinfo to move toward supporting IPV6.
- Corrected issue where a CONNX User ID could attempt to connect to a backend server with the wrong credentials. The problem was that a CONNX user with no credentials and not in any group was getting group credentials and logging in with them. This was only happening if a CDD has more than 1000 users in it.
- Fix for issue with non-correlated subqueries with parameter markers, they did not get re-processed with newly bound data after the initial execute.
- Added NLM Welding data types, with null values for data types with invalid contents.

- Added NLM 1980 based data types.
- Fix to prevent hang/infinite loop condition when the driver cannot create a file in the temp directory.
- Fix for MariaDB driver failure that happens when an update statement uses the CONVERT() function without a WHERE clause.
- Fix for the wire protocol .NET CNXDataAdapter.
- Added file name to RMS errors.
- Fixed snowflake bug - the default temp path was hardcoded to an incorrect value.
- Fixed snowflake bug - the create table for snowflake was not fully qualifying the table name, which resulted in incorrect column list if the same table name existed in a different database or schema.
- Added ADADBIDSEC feature that will allow control over which databases can be substituted using the ADADBIDLIST feature.
- Fixed crash with FILETRACE on Unix.
- Queries containing a dangling comma after the last column (for non-passthrough type queries) formerly would pass and are now correctly diagnosed and will show an error.
- Added missing environment variable PARALLELDATABASECOUNT for Linux.
- Added export for SQLExecDirectW, SQLExecDirect for Unix.
- Fix for STRICTCONVERSIONRULES with negative datatypes that were being compared to unsigned datatypes.
- Range Limit checking as affected by STRICTCONVERSIONRULES is now correct for unsigned types.
- Will now log all SQL statements to CONNX.LOG if DEBUG is set to 1 in the CONNX configuration manager.
- Fixed memory overwrite in Insert CURSOR queries, using linked server "Insert into (select openquery(stmt))" type queries.
- Fixed problem where operator precedence "<>" was greater than "between" when the descriptor was a MU/PE.

InfoNaut

- Better error message for when an Infonaut connection/history file exists but has become read only.

CDD Manager

- Removed option "Allow On the fly CDD Metadata Inserts for objects that have not been imported". This option did not work.
- Fix for issue when performing an Adabas SYSOBJH import with two short-names that only differ by casing (e.g. BA and Ba), the logical names would be incorrectly displayed as LOGICAL_NAME and LOGICAL_NAME_02.
- Fix for issue where changing the port number in a Linked CDD does not get propagated to the Master CDD.
- Fix for Vax CDD import where filler field has a name of '*'.
- Fix for Adabas SYSOBJH Import - When the FIXMUPENAME registry setting under CONNX\ADABAS is now set to 2, table names for MUs within PEs will be {Root_Table_Name}_{Embedded_MU_Name} (e.g. EMPLOYEES_BONUS).
- Fix for JMS: the JNDI import name was incorrectly being inherited from the name of the previous UMSERVER import.
- Fixed the issue where the RMS import browse function could not change server once browse button is clicked.
- Fixed the issue where the Connection dialog is not saving the password if the import is Informix and user checked save password.

InstantdbSync/Open Systems Event Replicator

- Fix for Controller crash when an A2R CDD is deployed while there were pre-existing A2A replications defined in the source dbid.
- Fixed problem in Oracle replication logging, and some bugs in Snowflake support for real-time replication.
- Fix for intermittent/rare crash of the CNXREP on Linux when replicating two Adabas files.
- Fix in administrator, the deployed replication grid would randomly disappear and other odd things when a connection failed, then a different connection succeeded.

- Fix for issue where cnxrep exhausting memory on Windows server when replicating to a large number of target tables.
- Fixes for MQ_monitor on Unix.
- Fixed issue in A2A replication where deploying one source to two targets, shutting down the second target, and issuing an on-demand initial state to the first target would result in the replication getting stuck in a "Replicating" state with no timestamp information.
- Fixed issue where requesting an A2A initial state to a target that has been shutdown would result in the replication getting stuck in a "Replicating" state.

DataSync

- Multiple bug fixes in DataSync Administrator Web Interface for alignment and sizing issues.
- Fix for intermittent problem – occasionally the DataSync REST server seems to hang when retrieving historical status.
- Fixed DataSync REST server syncs license locking, and added logging if there is a license error.

JDBC Server

- Fix for problem where the JDBC listener does not return the proper error when a bad password is entered and SSL is enabled.
- Performance improvement on ResultSetMetaData - added performance optimization where the ResultSetMetaData for prepared statements is now cached if fetched and reused when re-executing the statement.
- All the JDBC is<method>() { isBeforeFirst(), isAfterlast(), isFirst(), isLast(), and isClosed(),… } functions have been fixed and checked to make sure they are all working.
- Fix for range checking using the strictconversionrules option.
- Fix for unsigned data types, JDBC Driver was not handing unsigned data types properly.

CDD Comparison Tool

- Fixed bug where an exception was shown because of a null value in an integer field.
- Fixed bug where “an_” in some of the column names in certain cases can result in incorrectly reported table column differences.
- Fixed bug where a difference in column datatypes on the very last table in both data dictionaries sometimes was not being reported.

Install

- Modified Docker file scripts to chmod 775 (+x) the install scripts to solve the problem where the executable bit is not set if the customer does a manual copy to their Linux system.
- Added FTPS support in mainframe.

Requirements for CONNX 14.6

Data (Host) Server Requirements

Please see the accompanying documentation for additional System Requirements.

Database	Hardware	Network	Operating System	Memory/ HD requirements
Digital RMS (any version)	Compaq/DEC VAXServer Compaq/DEC AlphaServer	UCX 3.0 or above compatible TCP/IP Software	OpenVMS/VAX OpenVMS/Alpha {AXP] VMS 5.3 and above Itanium 64-bit	12mb VAX 32 mb Alpha Working Memory 20k Blocks HD avail
Oracle Rdb (version 4.1) (version 6.0 and above)	Compaq/DEC VAXServer Compaq/DEC AlphaServer	UCX 3.0 or above Compatible TCP/IP Software	OpenVMS/VAX OpenVMS/Alpha [APX] VMS 5.3 and above	12mb VAX 32 mb Alpha Working Memory 20k Blocks HD avail
Oracle DBMS (version 4.3 and above)	Compaq/DEC VAXServer Compaq/DEC AlphaServer	UCX 3.0 or above Compatible TCP/IP Software	OpenVMS/VAX OpenVMS/Alpha [APX] VMS 5.3 and above	12mb VAX 32 mb Alpha Working Memory 20k Blocks HD avail
Oracle RDBMS (version 7.3 and above)	Compaq/DEC VAXServer Compaq/DEC AlphaServer Personal Computer (Intel) Sun Workstation IBM RS/6000(AIX)	TCP/IP	OpenVMS/VAX OpenVMS/Alpha VMS 5.3 and above [APX] Microsoft Windows Server 2012 and above UNIX(ANY)	12mb VAX 32 mb Alpha Working Memory 20k Blocks HD avail

Database	Hardware	Network	Operating System	Memory/ HD requirements
C-ISAM	SunSparc RS/6000 Intel HP Server	TCP/IP	SunOS AIX Linux HPUX Windows Server 2012 and above	5 mb of HD space 32mb RAM
DISAM	SunSparc RS/6000 Intel HP Server	TCP/IP	SunOS AIX Linux HPUX Windows Server 2012 and above	5 mb of HD space 32mb RAM
Micro Focus	SunSparc RS/6000 Intel HP Server	TCP/IP	SunOS AIX Linux HPUX Windows Server 2012 and above	5 mb of HD space 32mb RAM
DataFlex & PowerFlex (any version)	Personal Computer Sun Workstation	Any supported protocol under Windows	Windows, UNIX	
Any OLE DB Compliant data source Sybase Informix SQL Server	No requirements except those of the database itself and the third-party driver An ODBC Level 2-compliant driver must exist for the platform and database.	TCP/IP software Requirements of third-party driver	No requirements except those of the database itself and the third-party driver	No requirements except those of the database itself and the third-party driver

DB2 Database	Hardware	Network
DB2/6000; DB2 UDB for AIX	AIX 4.3 and above	TCP/IP and SNA/LU 6.2
DB2/MVS V4R1 and above	MVS	SNA/LU 6.2 only
DB2 UDB for z/OS and OS/390	z/OS and OS/390	TCP/IP and SNA/LU 6.2
DB2/400 V3R1 and above	OS/400	SNA/LU 6.2 only
DB2/400 V4R2 and above; DB2 UDB for iSeries	OS/400 and iSeries	TCP/IP and SNA/LU 6.2
DB2 UDB Enterprise Server Edition	Windows Server 2012 and above	TCP/IP and SNA/LU 6.2
DB2 UDB for Linux Enterprise Server Edition	Linux	TCP/IP

CONNX for VSAM Product	Operating System	Supported File Types	Network Software	CICS Version/Release
CONNX for CICS/VSAM	OS/390 and z/OS	VSAM	TCP/IP V3R2 and above	V4R1 or TS 1.x and above
CONNX for VSAM / QSAM / PDS	OS/390 and z/OS	VSAM / QSAM / PDS	TCP/IP V3R2 and above	N/A
CONNX for CICS/VSAM	VSE 2.3 and below	VSAM	TCP/IP (CSI / IBM), Barnard TCP/IP Stack	V2R3 and below
CONNX for CICS/VSAM	VSE 2.4 and above	VSAM	TCP/IP (CSI / IBM), Barnard TCP/IP Stack	TS 1.1.1 and above

Adabas SQL Gateway (CONNX for Adabas) Product	Operating System	Network Software
Adabas	OS/390, z/OS, VSE, Windows Server 2012 and above, Solaris, HPUX, AIX, VSE, Linux Intel, zLinux	TCP/IP, Barnard TCP/IP Stack (VSE only)

CLIENT PC REQUIREMENTS

	Minimum	Recommended
Available space on hard drive	150 MB	250 MB
OS	Windows Server 2012 and above (32/64bit)	Windows Server 2012 and above (32/64bit)
Network Connectivity	Microsoft TCP/IP	Microsoft TCP/IP
Access or permission on the appropriate databases	YES	YES

Unix Client System Requirements

PC Linux Client System Requirements	
Hardware	Processor: 2 core or better Memory: 2 GB
Operating System	Any Linux OS which supports Linux Kernel 2.6.18 or above, for example, Fedora Core Release 6 or above, RedHat Enterprise Linux, version 4 or above, or SUSE Enterprise Linux 11 or above. Please see the documentation for your specific Linux distribution to determine the Linux kernel version.
Free Hard Disk Space	50 MB
Software – ODBC Driver Manager	Any ODBC Driver Manager

Solaris Client System Requirements	
Hardware	Processor: UltraSPARC Memory: 512 MB
Operating System	Sun OS 5.8 or above
Free Hard Disk Space	50 MB
Software – ODBC Driver Manager	Any ODBC Driver Manager

AIX Client System Requirements	
Hardware	Processor: IBM e-Server P-Series or RS/6000 Memory: 512 MB
Operating System	AIX 5.x Operating System: IBM AIX 5L Version 5.1, system maintenance level 2 (64-bit) or Version 5.2
Free Hard Disk Space	50 MB
Software – ODBC Driver Manager	Any ODBC Driver Manager

HP-UX Client System Requirements	
Hardware	Processor: PA-RISC or Itanium Memory: 512 MB
Operating System	HP-UX 11.0 (64-bit) or HP-UX V11.11i (64-bit)
Free Hard Disk Space	50 MB
Software – ODBC Driver Manager	Any ODBC Driver Manager

JDBC Pure Java Client Requirements

Requirement	Minimum
JDK*	1.3 for JDBC server. 1.7 for JMS server
Hard Drive Space	10 MB Free
Network Connectivity	TCP/IP

InstantdbSync Requirements

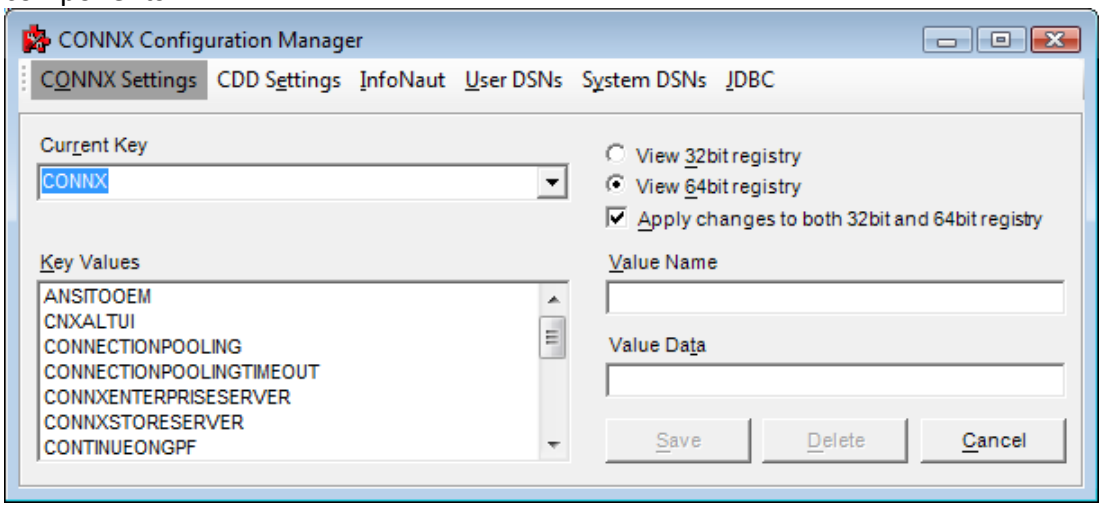
Requirement	Minimum
Operating System	64bit Windows Server class operating system
Source Database	When SQL Server is the source: SQL Server 2008 to 2019 When MySQL is the source: MySQL 5.6 and above When Oracle is the source: Oracle 11g to 18c
Hard Drive Space	200 MB Free
RAM	8 GB

Accessing 32-bit only data sources from 64-bit applications

It is possible to access a 32-bit only data source, such as Dataflex on Windows, C-ISAM/D-ISAM on Windows, etc. from a 64-bit application using the CONNX Enterprise Server Service (ESS). Using the ESS, a 64-bit application such as MS SQL Server can load the 64-bit CONNX client. The CONNX Solutions CDD can then be configured to access the 32-bit data source via the 32-bit Enterprise Server Service. This configuration allows the 64-bit client to call into the 32-bit ESS via TCPIP which, in turn, is able to load the 32-bit only DLLs used to access the data. The opposite is also true: if you have a 64-bit only data source that you need to access from a 32 bit application, you can use the 64 bit ESS to access the data and pass it to the 32 bit CONNX client.

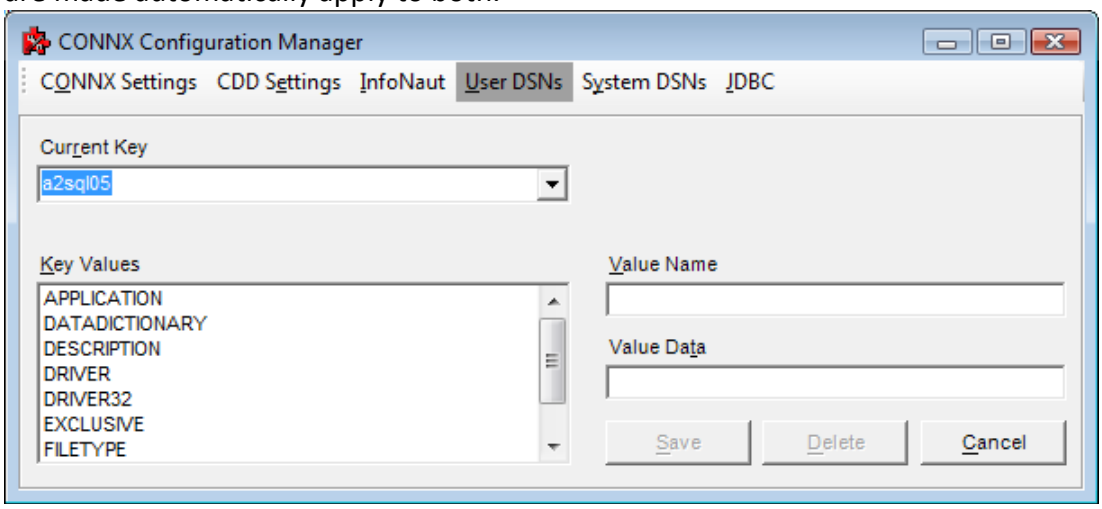
Configuring 32-bit and 64-bit components

CONNX is configured with the CONNX Configuration Manager. The CONNX Configuration Manager can be used for managing both the 32-bit and 64-bit components.



There is a radio button to select which registry setting to configure. Usually, the registry settings will be the same for both the 32-bit and 64-bit components. Checking the "Apply changes to both 32bit and 64bit registry" checkbox will cause a setting made for one component to be made for the other, as well. There are some settings, however, where it may be necessary to maintain different values for the two components; for example, the port the ESS listens on. In these cases, this check box should be unchecked when changing the value.

On the InfoNaut tab and the User DSNs tab, the settings are not differentiated between 32-bit and 64-bit. The selection radio buttons are not displayed, and any settings that are made automatically apply to both.



CONNX .Net Data Provider - Connection Pooling and Pooled Connection Timeout

This covers the corrections to the pooling and timeout of connections in the CONNX .Net data provider along with some inconsistencies with Microsoft's generic .Net data provider implementation. The following is the correct way to turn on or off the CONNX .Net Data provider connection pooling, and how to set the pooled connection timeout.

Connection Pooling

Turning connection pooling on/off; by default connection pooling is enabled. If connection pooling is enabled the .Net Data provider will hold a connection open for a specified amount of time after the CNXConnection.Close() function is called and use it the next time a connection is opened. Since the connection to the server was never closed, the opening of the new connection will be faster if a pooled connection is used.

- The first way to control connection pooling is through the CNXConnection.PoolConnection property.
- CNXConnection.PoolConnection = true; enables connection pooling in the provider,
- CNXConnection.PoolConnection = false; disables connection pooling in the provider.
- This property can be set before or after the connection has been opened, but must be assigned before the CNXConnection.Close() function is called.
- A second way to control connection pooling is through the connection string input to the CNXConnection object; Add "Pooling=true" to enable connection pooling, "Pooling=false" to disable connection pooling in the provider.
- Ex: "Persist Security Info=True;DD=c:\Test.cdd;UID=test;PWD=test;Mode=ReadWrite;Pooling=False;"

Pooled Connection Timeout

Only used when connection pooling is enabled, this setting controls how long a connection will remain in the pool while not in use. The input is in seconds, so setting it to 20 would mean the connection will remain in the pool for 20 seconds before it is closed. The default setting is 60 seconds, an input value of 0 means there is no timeout. This setting is only used when connection pooling is enabled.

- The first way to set this is with the CNXConnection.ConnectionPoolTimeout property.
- CNXConnection.ConnectionPoolTimeout=10; connections will last in the pool for 10 seconds after the CNXConnection.Close() function is called, before the connection to the server is closed.

- This property can be set before or after the connection has been opened, but must be assigned before the CNXConnection.Close() function is called.
- The second way to set this property is through the connection string input to the CNXConnection object; Add “Connection Lifetime=25” to set the time in seconds the unused connection will last in the pool.
- Ex: "DD=c:\Test.cdd;UID=test;PWD=test;Pooling=true; Connection Lifetime=25;“

CNXConnection.ConnectionTimeout property change

This property has been changed for clarity and consistency with the Microsoft generic .Net data provider implementation. The description that appears with this function in Visual Studio has been changed to “(Read Only) The time (in seconds) to wait for a connection to open. This is not controlled by the CONNX .Net Data Provider”. Also, since this property should have been read only, it has been changed to read only in the CONNX .Net Data Provider.

Changes/Bug Fixes for CONNX 14.5

Critical Changes

Please take special note of the following corrections and changes (listed below as well) as they may cause a change in expected behavior.

- The CONNX Mobile App KPiSync has been discontinued and is no longer supported.
- Event Replication and the Adabas server on HPUX-RISC has been discontinued.
- The internal format of data dictionaries has changed slightly. CONNX will automatically upgrade the CDD to the new format on first usage, but this will require read/write access to the CDD and read/write access to the directory where the CDD is located.
- With the introduction of the DataSync REST interface and web GUI, the original DataSync GUI has been deprecated. It is still included in the product installation but is now referred to as DataSync Classic. It will be discontinued at some point in the future. Please migrate to the new browser-based GUI.

New Features

- Added a DataSync REST Interface that can be called from the new DataSync web GUI or from any REST application.
- Added a DataSync Web Interface that will replace the current Windows GUI, however both are included in release. The original DataSync GUI has been deprecated and is now referred to as DataSync Classic.
- Added optimized target adapter support for Snowflake with DataSync.
- Added DataSync Functionality - Transformation Export, Import and Duplicate functions.
- Added ability to change server name and port from a script and command line - (CDDMove.exe).
- Added configuration setting EXCELADDINNOSAVEPASSWORD, when set to 1 it will disable the ability to save the password to the ODC connection file. The user will have to log in every time a connection is loaded or refreshed.

- In the Data Dictionary Viewer, when table columns are displayed, added Null Suppression to the list of information about each column.
- Added CURRENT_USER and SESSION_USER functions.
- Added support for nested comments in SQL Queries.
- Added requested optional JDBC connection string syntax: ADADBIDLIST=(<logicalCDDDatabaseName>:<new DBID>,<logicalCDDDatabaseName>:<new DBID>,…)
- Added 3 new functions for trimming all whitespace characters not just spaces, LTRIMWHITESPACE, RTRIMWHITESPACE and TRIMWHITESPACE.
- Added configuration setting ADABAS\JOINMUDESC to permit the old (incorrect) join behavior of allowing joins on MU descriptors.
- Added new packed complement data type.
- Added new function called REMOVENULL which will remove any embedded nulls from a string value - this works for both Unicode and ANSI character sets.
- Added AutoBulkUpdate Feature
- Added feature to log new connections to the console for CICS
- Added Packet Tracing feature
- Added optional setting ALLOWTRAILINGSPACEINVARCHAR to enable VARCHAR to accept trailing spaces as was the way CONNX 8 worked.
- Added support for specifying a view clause during Adabas DDL imports.
- Added full support for Replicating source tables to different owners for target tables in a database. Previously, separate owners in replication was partially supported - only for existing tables. Now Target tables in replication can be created under different owners in a database.
- Added an optional Registry setting under CONNX\DATASYNC - ONDEMANDCONNECTIONONLY, if it is not there or set to 0 then DataSync operates as it always has by doing a full connection when a CDD is chosen to see if it is valid. If the ONDEMANDCONNECTIONONLY is set to 1 then DataSync will never do a full connection, only an on-demand connection.
- Added support for AIX sha256 and AIX sha512
- EntireX driver - added a registry setting called MAX_WAIT_MILLISECONDS that defaults to 1000000 milliseconds

(1000 seconds) as the longest to wait for a slow transaction to complete.
- Added ability for LUW replicator controller to be in the cloud while Admin is on premise.
- Added support for SQL Server 2019 as a source for InstantdbSync/ Open Systems Event Replicator replication.

Resolved Issues

These are the major issues that were resolved and features that were added in CONNX 14.5:

CONNX client/server

- Fixed problem where we weren't dumping the Adabas format buffer when ADA_DEBUG_TRACE_MASK was set to 128.
- Fix for UTF8 conversion when the data is too large for the field - was previously putting an invalid Unicode sequence at the end - now remove the partial Unicode character.
- Fix for crash in .NET data provider - occasionally it would crash due to the timing of garbage collection because we did not ensure that the statement handled for all resultsets were zeroed out when we issued SQLDisconnect.
- Fix problem where behavior of {setfilename } with the refresh option was inconsistent - changed so the query plan will reflect the correct information, and also so that the query uses the correct index if the index information changes.
- Fix for bug in like/slike - was not handling trailing % properly.
- MS Access - Fixed error returned when trying to create a table that has the LONGVARCHAR or LONGNVARCHAR data type.
- Adabas - Improved efficiency for greater than searches against superdescriptors.
- PostgreSQL - Fixed issue where the log(10) function did not work in passthrough mode.
- Adabas - Added Audit field data length to the record buffer length.
- Fix for issue that users were able to perform a TRUNCATE TABLE even if the CDD file was read only.

- Fix for issue where values from 0.1 to 0.9 were not inserted in DECIMAL column on temp tables.
- Fix for SQL query receiving ADABAS RC=146 SC=2, when there is a very large Adabas record buffer.
- Changed {syntaxcheckonly} with an on-demand connection to create a virtual connection to the database instead of a full connection.
- Changed the LIKE operator to conform to SQL standards, it previously would allow a query to perform LIKE against columns and expressions that were not strings. This is no longer allowed, however if the previous behavior is desired, it can be used by creating the CONNX\AUTOCONVERTFORLIKE key in the Configuration manager and setting the value to 1.
- Fix for the DB2 database, some data type conversions to binary did not work if {nopassthrough} was not specified.
- Fix for an old intermittent crashing bug in the CONNX driver.
- Add support to {syntaxcheckonly} so it works with other CONNX special functions.
- Fix for the TRIM, LTRIM and RTRIM SQL implementations - they should only trim spaces, and not whitespace characters.
- Fix for Power BI desktop app, Tables were not displayed when making OLEDB connections to the CDD.
- Fix for connection to VMS using CONNX .Net data provider. The connection was not reporting when the connection was lost on the VMS server, now by checking the CNXConnection.State property, a call is made to the server to verify the if the connection is open or closed.
- Fixed but in Sybase ASE server in 64 bit mode "cannot create table".
- Fixed Mainframe listener abend USER=1208 in module CNXRUNA.
- Added userexit functionality for C-ISAM.
- Fixed problem where newline & carriage return were trimmed incorrectly when converting from CHAR to VARCHAR.
- Fixed problem with all the JDBC updatexxx functions - it was not resetting the null flag if the value was already NULL.
- Fixed LSNDEBUG so that it completely overrides DEBUG if it is present.
- Fixed {usekey} function so it works with SQL UPDATE statements.

- Fixed bug in CONNX for RMS - if the first record of a file is locked, if a select * is issued against the table, CONNX returns no results.
- Fixed problem where windows returns 0 for the codepage on some systems. If that happens the codepage will now default to 1252.
- Docker Adabas Server - Do to occasional errors, removed the gunzip command and replaced it with a tar -zxvf command.
- Fixed issue in queries where the union of two 1 byte fields results in length of 2 instead of 1.
- CONNX Server for CICS - Fixed formatting for CONSOLE message
- CONNX Server - Added console logging if CNXCONNECTBACK is set to 1.
- Fixed crash in query when performing a select MIN(ISN) from an Adabas table.
- Fixed issue with bound parameters of type SQL_DATE when connecting to SQL Server from Linux/UNIX without using enterprise server.
- SQL Server from Linux/UNIX Driver - add a support for SQL Server 2008 time data types.
- Added support to call SQLGetInfo in SQL Server from Linux/UNIX so we can detect the version of SQL server.
- Changes for implementing TIME type in SQL Server from Linux/UNIX.
- Fix to allow the following applications start without being prompted for password when UAC is on: Replication Admin, Configuration manager, DataSync Admin (Classic) and Infonaut.
- Fix for support of mainframe DB2 12 and above.
- Changed Limit function so it processes the ORDER part of the query first before truncating results.
- Fixed bug when committing an update which didn't affect any rows the JDBC Server entered an infinite loop with 100% CPU.
- Fixed bug in mainframe RCI interface - A SQL statement with a syntax error leads to the ACE error message "INIT 1: Internal application error. Please contact technical support".
- Added deadlock RMS error code to CNX_DATA_LOCKED return.
- Fixed problem when strict is set to true and issuing an update query with parameter markers.
- Implemented passthrough parameter marker support for PostgreSQL.

- Fixed bug found by having a where clause with bounds outside each part, ex: AND col1 BETWEEN 1 AND 9999 AND col1 in (0).
- Fixed memory overwrites when incorrectly encoded data is sent to the CONNX Driver in a query.
- Fixed AutoConvertForLike, it did not work with parameter markers.
- When issuing a connxserver stop, the child process ids and names are printed along with a warning message that they need to be stopped before starting the listener if applicable. Additionally, issuing a connxserver cancel will now find and kill orphaned child processes.
- Fixed a crash when issuing a select statement against a table that exists in the CDD, however there are no valid license present anymore for the database it belongs to.

InfoNaut

- The help document was blocking Infonaut when open, now it is floating so Infonaut and the help document can be seen at the same time.
- Fix of intermittent problem in Infonaut where the cancel button does not actually cancel the query.
- Fixed bug where duplicate column names returned in the results would cause an error once the number of duplicate columns exceeded 4.
- Fixed bug regarding the Infonaut history file location, if the location in the registry setting is not valid, infonaut will go through the process of finding a valid folder based on install directory and user directories first, instead of just returning an error.

CDD Manager

- Fixed problem with MySQL import with long server names (like cloud instance names like this: Craft-sanitized-25k-1.cgihgbodsl5g.us-east-1.rds.amazonaws.com.
- Fixed Adabas flat table import for the COUNT fields for MUs and PEs - counts over 127 previously returned an incorrect negative value.

- Fix for CNXROWNUMBER support for codasyl dbms - you can now select the "show cnxrownumber" checkbox for DBMS.
- Enhanced DISAM table name with the full path specification.
- Clarified and improved error message when checking views and there are no valid licenses.
- Fix for issue when an empty message box is returned when you cancel out of a Desktop or Enterprise OLEDB/ODBC Adapter import.
- Fixed problem with Adabas Systrans import - was skipping some tables where type was null.
- Fix for crash in CDD Manager when it cannot connect to a license server while creating a view.
- Fix for CDD Manager - Previously, an error was returned when importing tables with same name into different containers.
- Fix for CDD Manager - Previously, if a table name is selected before group is created, the group does not show up in users until a different table selected.
- Fix for multiple database imports, the port # did not default to 6500 when the import database type was changed after a previous import.
- Fixed problem where after a create view, the connection remained virtual and returned no data.
- Added ability for DDM imports to handle count fields for MUs and PUs - allowing users to access the hidden COUNT_FIELD with DDM imports for ADABAS.
- Fixed very intermittent bug in Replication Admin where after saving replications that do not have target tables specified, multiple times can cause the replications to be deleted when the Replication Admin is opened.
- Fixed ADABAS Systrans import error when the Systrans file has 130 character line lengths instead of 80.

InstantdbSync/Open Systems Event Replicator

- Fix for connection issue when using an EntireX target that is on Integration Server version 10.5.

- Replication for Docker - Added changes to allow the CONNX registry to be edited from the host machine and have the changes persist in the Docker container
- EntireX replication - there was an entry in the log for every transaction that that was supposed to be only for Extreme logging - fixed.
- EntireX replication - intermittently, timeout returns from transactions were not handled properly - fixed.
- Replication for Docker - Removed Windows carriage returns and replaced them with newline characters in the startEventServer script. The Windows carriage returns would cause problems in a Linux environment.
- EntireX driver - fixed bug when connecting to Integration Server version 10.5 with using the broker id field on a syncpoint call during replication.
- EntireX driver - fix for bulk mode in our syncpoint call during replication.
- EntireX driver - fix for when performing very large transactions with a remote server, a Transport Timeout can be returned. When this happens, the process will make another call and continue the operation where it was left off.
- Fix issue where the index on a JMS table wasn't being set when it was the target of a replication, this bug was introduced in CONNX version 14.0.
- ACD Replication - Adabas Producer log, added warning to let user know when timestamp is not shown on ACD table and how to enable it.
- Replication Controller - fixed crash that happens when deploying to 40 different Producers, with statistics on.
- Fixed issue where the Replication Admin was displaying an incorrect value for the number of errors in the performance statistics display.
- Fix for replication problem where engine count was set to 1 due to uninitialized variable.
- Fix for replication problem with scankeys due to uninitialized variable added with the view clause optimization logic.

- Fixed an issue where the Replication Admin would get stuck in the "Controller Configuring Event Consumer(s)" dialogue box when deploying with many EPs (20+).
- Fix for when a target table in an active replication was reimported with a new column in the middle of the table, the Replication Admin was not able to update the replication data correctly.
- Fixed SQL Error problem in replication that would cause a memory overwrite when error text was greater than 4096.
- EntireX - Fixed the problem of skipping logging when a transaction is aborted or retried due to unexpected failures.
- Replication for Docker - Added missing parameter for the mapping of the CONNX log directory for the example run command used to start the event producer container.
- Replication Admin fix for an editing an existing Transform, with an existing Target table. In edit mode if a user pressed next, the correct Target table radio button was not selected.
- Replication for Docker - Updated the readme installation and configuration documents.
- Replication Admin and repcmd - will now throw an error if an initial state is requested while an A2A initial state is already in progress.
- Replication Admin - fix for Data Types in column map screen - the data types SQL_LONGVARCHAR, SQL_WLONGVARCHAR and SQL_LONGVARBINARY were showing a large number in the length and it was editable, they now show 0 because they do not have specified length and are not editable.
- Fixed an issue with commit sequence when an empty transaction is encountered in replication processing.
- Replication Install Script - Fixed incorrect script location in install script. To start the services, it listed the ".../connx/replicator" directory when it should have been ".../connx"
- Replication for Docker - Fixed crash in the event server container during a deploy when looking up the host name on Centos8.
- Change to allow Postgres target columns to be specified as Unicode.
- Fix for issue where the controller was crashing if the EP was shut down and then restarted while the controller was running.

- Updated status logic to use message queue on the controller's server for ADM Status reply messages, specifically added to support the controller installed in the cloud.
- Added support for SQL Server 2019 as a source for InstantdbSync/ Open Systems Event Replicator replication.

DataSync

- Fixed DataSync Index issue for Adabas targets. When Adabas is a target for either Table Syncs or Transform syncs, the unique index from the source was not created on the target table.
- DataSync Transforms – The name of scheduled transform shows up under Groups tab (as well as Transforms) if the transform was not synced previously to scheduling it.
- DataSync Classic GUI change - Made the Group properties form sizable and the Group Filter field larger and expandable.
- DataSync Classic GUI change - Added a multi-select delete to the Groups and Schedules tabs.
- DataSync Classic GUI change - Added a Filter field to the Schedule tab.
- Fixed problem where create database fails when the machine is configured for German text.

Excel Add-In

- On the Excel Add-in data task pane, moved the Import tab to the left and made it selected by default instead of the edit tab.
- Workaround fix for Excel Add-In - With integrated security off in the data dictionary and connecting with Excel, the user is not always prompted for login information. The bug is in the Microsoft OleDb connection code, the text to prompt for login is not always sent from Excel. To get around this bug, in the driver, when the connecting source is Excel, it will always prompt if the connection information isn't present.

JDBC Server

- Fixed memory leak in SSL logic for JDBC server.

License Server/Licensing

- Fixed issue where Oracle replication license was not recognized as a valid license.

Configuration Manager

- Fixed issue where the Configuration Manager was allowing changes to both 32- and 64-bit registries for both user and system DSN's, changes only apply to one.

Install

- Added check to see if Visual Studio 2010 Tools for Office Runtime is installed before running the VSTO installer.
- Fixed RDB installation issue - we were not using the SQL$USER logical - we hard coded the opt file to SYS$LIBRARY:SQL$USER
- During install, set permissions on CONNX registry keys to full control for the “Users” group.
- Do not require admin privileges on the License administrator.
- Allow non-admin to start and stop DataSync scheduler service.
- Fix when installing the CONNX Linux client to a machine that has never had the client installer installed on it and the Manual Copy Installation option generated an error if the username was not filled out.
- Added Visual Studio 2017 versions of the sample projects.
- Fixed KeyboardInteractiveAuthentication error for scp and sftp

Changes/Bug Fixes for CONNX 14.0

Critical Changes

Please take special note of the following corrections and changes (listed below as well) as they may cause a change in expected behavior.

- The CONNX function CastAsCONNXType has been deprecated. Please use CNXRawConvert instead. CastAsCONNXType does not support expressions and makes assumptions about having the raw pre-converted column data available. CNXRawConvert does not have these limitations.
- Turned on the CLIENT_FOUND_ROWS flag 100% for the MySQL driver - this will have the effect of always returning the number of rows "matched" during an update - vs the number of rows actually changed. In other words, if I update a row to a value that matched the original values, MySQL by default says 0 rows updated because the data did not change, even though 1 or more rows matched. This behavior causes problems with InstantDBSync which relies on an accurate reporting of the number of rows updated in order to detect potentially serious error conditions.
- The following CDD data type names:
    - "JMS Integer Text"
    - "JMS Big Integer Text"
    - "JMS Double"
    - "JMS Numeric"
    - "JMS DateTime (yyyy-mm-ddThh:mm:ss.fffffffff)"
    - "JMS Time from SQL Server Time2 (hh:mm:ss.fffffffff)"
    - "JMS Time from Timestamp (hh:mm:ss.fffffffff)"
    - "JMS Byte"
    - "JMS Byte Bit (1/0)"
    - "JMS Date (YYYY-MM-DD)"
    - "JMS Binary"

  Have had their CDD data type names changed to:
    - "XML Integer Text"
    - "XML Big Integer Text"
    - "XML Double"
    - "XML Numeric"
    - "XML DateTime (yyyy-mm-ddThh:mm:ss.fffffffff)"
    - "XML Time from SQL Server Time2 (hh:mm:ss.fffffffff)"
    - "XML Time from Timestamp (hh:mm:ss.fffffffff)"
    - "XML Byte"
    - "XML Byte Bit (1/0)"
    - "XML Date (YYYY-MM-DD)"
    - "XML Binary"

- Performance statistics are turned on by default for replication

New Features

- Added support to LUW Replication for webMethods Integration Server as a target
- Added Docker support to LUW Replication
- Added Ability to use JDBC Updatable rowsets in conjunction with "select .. for update" clause
- Added CNXROWNUMBER support for CONNX for DBMS
- Added read lock support to CONNX for RMS
- Added support of setObject and getObject JDBC statement interface
- Added support to the database connection button in the CDD Manager to have the ability to connect to TLS/SSL data servers
- Import CDD from command line using TLS/SSL
- Added ability to create log file when using CDD administrator in command line mode
- Added auditing capabilities
- Added ability for Flushopenfilecache to work on a specific RMS table file
- Added new Data Type called "Timestamp19 (YYYYMMDDTHHMMSSFFFZ)" which is stored as a text string, but becomes an ODBC timestamp when we read it.
- Added REGEX_LIKE feature
- Added Snowflake support to CONNX.

Resolved Issues

These are the major issues that were resolved and features that were added in CONNX 14.0:

CONNX client/server

- Fix for memory overwrite when processing an unknown structure area in an RMS file.
- Fixed .NET Data Provider exception when issuing an SQL Statement with a LIMIT
- Turned on the CLIENT_FOUND_ROWS flag 100% for the MySQL driver - this will have the effect of always returning the number of rows "matched" during an update - vs the number of rows actually changed. In other words, if I update a row to a value that matched the original values, MySQL by default says 0 rows updated because the data did not change, even though 1 or more rows matched. This behavior causes problems with InstantDBSync which relies on an accurate reporting of the number of rows updated in order to detect potentially serious error conditions.
- Added setting CONNX\ERRORONTRUNCATE – When doing an INSERT SELECT, if a string column is too wide to fit in the target column the string is truncated to fit and then moved to the target. When ERRORONTRUNCATE is set to 1 and there is a truncation of data detected, it will throw an error and stop the entire Insert Select. When the value is set to 0, the data is truncated and processing continues. The default value is 0 which is the behavior of previous versions.
- Fixed parsing error with Oracle floating values larger than or equal to 1e125 and smaller than or equal 1e-125
- Changed CNXStop so that it logs every step to the system console
- Fixed crash in GROUP BY logic
- Fixed crash in MIN/MAX functions
- Fix for ACE1745 - RSP 201 AdaSCR password was not being set properly after recovery from Transaction timeout (nucleus error 9)
- Created a new aggregate function call GROUP_CONTACT which will concatenate into a single string all of the items in the group - up to 1024 length string

- Added a new optional parameter to {fn setfilename} called refresh, which will refresh the indexes for the newly attached file - this is only done in memory, and the CDD is not affected.
- Fixed memory overwrite when DB2 tracing is enabled and the DB2 table name is 128 characters (max length)
- Added new feature that will only allow connections from CDDs where the CDD password matches this new setting - CDDPASSWORD - this is a data server setting.
- Changed behavior of Regex to match that of Oracle - partial matches are allowed now.
- CONNX now returns an error with a SQL statement that contains a mismatched starting comment with no ending comment (/* with no */)
- Fixed memory overwrite in the aggregate function logic
- Fixed iTrac ACE-1760 “SELECT COUNT(*) returns invalid results”
- Fix for RMS empty file with blockio
- Fixed iTrac CXA-59 PostgreSQL - COUNT function returns error when used in PostgreSQL 10.1 or newer
- Replaced VMS command LOGOFF (which is not the correct command) with LOGOUT
- Fixed iTrac CXA-47 - Rounding problem with DECIMAL data type on negative numbers
- Fixed problem where creating a table with a period “.” in the name resulted in an error
- Fixed iTrac CXA-56 Problem with some aggregate functions with unicode data type caused the length to be cut in half with Access 2013
- Fix for Support Incident: 5364280 Query uses NU superdescriptor to look for zero.
- Fix for Support Incident: 5369451 Duplicate rows in query result in complex superdescriptor.
- Fix for problem where CONNX did not recognize Solaris hashed passwords with a non-default number of rounds
- Fixed issue so query plans (where the priority count is zero in all tables) do not differ per platform
- Fix problem with index information not being calculated properly for some MU/PE tables in adabas.

- Added Snowflake support to CONNX.
- Added support for DEBUG logical for VMS
- Fixed crash where MU or PE count > 192 would result in a crash if the record buffer was too small
- Fix for Acucobol - SQLUnbind causes future fetches to fail.
- Fixed truncate command when there is a SQL view clause on the table
- Fixed crash huge sql statement - put in a guard to prevent stack overflow if nesting depth exceeds 5000
- Fixed iTrac ACE1791: Audit logging resulted in nucleus response code 47 when selecting MU subtable.
- Fixed problem with TableCache logic when {fn setfilename } was used - tables were never reused from the cache
- Fix usage of ineligible complex superdescriptor
- Added row number support for Codasyl dbms

InfoNaut

- Fixed iTrac ACE-1754 - In InfoNaut when your SQL ends with a comment marked with double hyphen, clicking the Execution Plan has no effect. The query gets performed and not just analyzed.
- Add save results in 3 new formats - Excel 2007 and newer, Semicolon separated values and custom separated values.
- Added feature so that when a query is saved to an infonaut query file (.ciq) the formatting is kept when they are opened.

CDD Manager

- Fixed bug in import of Excel files in to the CDD - skips over import of stored procedures since these are not supported.
- Fix for CDDPassword length 10 or longer not working properly
- CDDPASSWORD can now be a comma separated list with support for up to 10 passwords
- Fixed issue where CONNX did not import Oracle indexes properly if the index contained more than one column and one of the columns was descending.

CDD Comparison Tool

- Added ability to check consistency of Adabas rotated tables (MUs and PEs)
- Fixed iTrac Issue CXA68: Octet length error when comparing 2 CDD's

InstantdbSync/Open Systems Event Replicator

- Fixed crash in Oracle EP when Oracle unique index was greater than 1700 bytes
- Changed the Replication Admin so that instead of opening the Event_Replication license and holding it open while the Replication Admin was active, the license is checked and then released.
- Fixed reliability problems when starting the SQL Server EP
- Fixed issue where sending back-to-back on-demand initial states could cause the replication to stay in an “initial state pending” state forever.
- Fixed several errors in Oracle connect/reconnect logic
- Fixed problem where A2A re-deploy loses initial state start and end timestamps.
- Fixed issue where only the first error was being reported when there were multiple errors
- Fixed issue where TRUNCATE was not being replicated when MySQL was the source
- Fixed issue where recmd was not displaying error messages on the console.
- Enhanced repcmd status output to reflect all the information displayed in the replication admin status screen
- Performance improvement when using view clause support with replication
- Fixed performance issue in replication - statements were being re-prepared every transaction
- Fixed message queue performance problems when running on HPUX
- Fixed problem where the source column expression syntax check did not use double quotes around the full table name
- Fixed missing double quotes around the full table name in the create table statement

- Fixed iTrac CXB-76 Duplicate replications with no target table added after dropping target tables.
- Fixed iTrac CXB-78 A2A replications are unchecked in the Design screen when they are undeployed.
- Fixed problem where the ACD replications for Adabas MUPE tables did not pass validation even though they had a correct unique index.
- Fixed iTrac ARN-77: Replication admin does not prevent conflicting primary key mapping between parent file and MU/PE subtables
- Fixed problem where some replications in the Replication Admin were displaying a status of "Replicating" when they should have displayed as "Replication Paused."
- Fixed issue when target table is Oracle and has multiple CLOBS - empty clob values would generate an error.
- Fixed issue where a reimport of a source Adabas flat table with fewer columns resulted in the SQL statements not being correct after being opened in the rep admin.
- Fixed replication error message when it fails diagnostic check.
- Fixed iTrac ARN-103: Invalid column mapping on replication.
- Added the ability for the Replication Admin to create many target tables from one source table - target database combination.
- Performance statistics are turned on by default for replication
-

DataSync

- Fixed issue where CONNXStore column was sometimes truncated when synchronizing to a destination database
- Fix for Support Incident 5368935: While extracting CLOBS via CONNX multiple duplicate records found. The problem was that the CONNX Driver loaded DataSync configuration settings into global memory on DLL startup - and when the setting was changed in the DataSync GUI, the CONNX Core driver still had the old setting
- Fixed problems with Oracle CLOBs
- Added better error message in situations where incremental syncs fail

Excel Add-In

- Fixed iTrac Issue ACE1773: Excel plug-in validation error occurred. The Excel add in was blocking some select statements that were valid.
- Fixed iTrac ACE-1776: Excel Addin does not write back to sample Vehicle and Employees Adabas files when the file is imported with SUPERDESCRIPTORASFIELD turned on.
- Fixed a bug in the alignment of the text of the data task pane buttons.
- Fixed issue where if certain 3rd party excel adds were installed with the CONNX excel add in all buttons for both ribbons would show in the same ribbon
- Changed Write Changes button to say Write Changes to File Only to avoid confusion that this button saves the changes to the database also.

JDBC Server

- Fixed JDBC Logging - added critical section to make it thread safe
- Increased JAVA RPC size from 4k to 100k for performance
- Changed the JDBC Client TCP/IP Send logic so it sends the entire buffer all at once instead of breaking it up into 4k chunks.
- Fix the Java client so that we properly detect the first word of the SQL statement - skipping past any comments or white space
- Fixed iTrac CXA-6: Unix/Linux machines with JDBC server with bigint data type lost a last negative digit for big numbers
- Fix memory overwrite/crash when logging is enabled and SQL statement is greater than 65535.
- Implemented PreparedStatement.setObject(-, -)

License Server/Licensing

- Changed configuration so that license server picks up configuration settings from the same location as the JDBC server.
- Fixed problem with Revoke service - it now revokes by serial number instead of license code, since the license code may have changed.
- Improved error message when there are no supported databases listed in the registry. The error “You are not licensed for any databases.” has been changed to “You are not configured for any databases in the CONNX Configuration Manager under the key CONNX/DATABASES.” The Linux/Unix version is worded to reflect the use of sqlregistry.
- Corrected LICENSEPORT to LICENSESERVERPORT in help messages in the installclient script as well as error messages in the license server

Install

- Updated to latest SSH client library to resolve authentication issues.
- Fixed iTrac CXB-73 ADAREX value incorrect after install
- Corrected LICENSEPORT to LICENSESERVERPORT in help messages in the installclient script as well as error messages in the license server
- Provide users with a choice between su and sudo on re-install for Linux/Unix
- Fixed file path naming convention for Excel Add-In installer
- Fixed KeyboardInteractiveAuthentication error for scp and sftp

Changes/Bug Fixes for CONNX 13.8

Critical Changes

Please take special note of the following corrections and changes (listed below as well) as they may cause a change in expected behavior.

- Windows XP, Windows 7 and Windows Server 2008 are no longer supported for CONNX 13.8 and above.
- SCO Unix is no longer a supported platform
- RM Cobol is no longer supported
- 32bit support for DISAM, CISAM and Microfocus have been dropped. 64bit versions of these data servers are still supported.
- Update the data types shown in the Query Builder to show ANSI 92 data types instead of the .net datatypes.
- REGION parameter in JCL for mainframe servers changed to 0M.
- Mainframe servers - changed default for ALLOWMIXEDPWD from 0 to 1. This will allow mixed case passwords on the mainframe data servers. If mixed case passwords are not enabled on the mainframe, this setting should be set to 0 in CNXPARMS.
- DECNet (Pathworks) is no longer supported when connecting to OpenVMS systems. This affects RMS, RDB and DBMS server components.
- Replaced CONNX Solutions program folder on the Windows Start menu with separate folders for each CONNX product. This change makes us consistent with the new Windows 10 menu structure.

New Features

- Added support Oracle as an InstantdbSync source.
- Added support for the JDBC Server, License Server, Adabas data server, CISAM data server and DISAM data server to run in Docker Containers
- Added support for SSL/TLS on all TCP/IP connections

Resolved Issues

These are the major issues that were resolved and features that were added in CONNX 13.8:

CONNX client/server

- Added support for the JDBC Server, License Server, Adabas data server, CISAM data server and DISAM data server to run in Docker Containers
- Added support for SSL/TLS on all TCP/IP connections
- SCO Unix is no longer supported
- Added support for Oracle Timestamp with Timezone data type (previous version did not support timezone)
- Fixed issue where we did not properly detect we were communicating to the mainframe when WCP(Entire network) was used.
- Added logic so if listen socket fails then we reissue the listen.
- Fix crash in Select cnxclientcodepage(),cnxclienticucodepage(),cnxclientdgcodepage(),cnxclientdefaultcodepage() when code page was not supported or zero
- Implemented a specialized bulk update feature for Adabas
- Memory leak fixes
- Fixed problem where pooled connections that became invalidated were being held in the pool until the timeout period expired. Invalid connections are now removed immediately
- Add RMS Wait support to RMS RFA
- Added a new ODBC/JDBC optional connection parameter called SERVERPORT which will enable the user to override the port of the data server from a JDBC/ODBC connection
- Added code to put a pointer to the user id in the Adabas control block for user exits
- Added logic so that string manipulation collation adjusts based on code page for windows (this already happened on Linux/Unix based on LANG= setting)
- Fixed intermittent memory overwrites when running VSE data servers (Adabas or VSAM)
- Changed SYSCNXCOLUMNS to expose the physical column length

InfoNaut

- Fixed error in Show Tables function where a double click on the white area caused an error message

CDD Manager

- Prevent message popups when the CDD Manager is invoked using the command line interface.
- Fixed problem in Adabas DDM import code that caused a crash when there were more than 926 fields defined for a file.
- Fixed problem with vms browse function not working when installed to a location with a space in the name
- Fixed problem with Adabas SYSOBJH imports where the import skipped items when the group level was greater than 6
- Fixed crash if Delete Restriction is attempted when no restrictions are present (Table Security tab)

InstantdbSync/Open Systems Event Replicator

- Added support for Oracle as an InstantdbSync source.
- Corrected problems arising from truncating the source table
- Corrected crashes when running under heavy load with SQL Server as the source.
- Corrected problems with updates not being replicated when running under heavy load with SQL Server as the source
- Resolved memory overwrite errors in SQL Server EP.
- Corrected memory leak which caused a crash during initial state when replicating to an Oracle target and the source table had several billion records.

DataSync

- Fixed intermittent problem where syncs would report a blank table name
- Fixed problem where Incremental syncs failed if there were changes to a table and the source table name had a space in it
- Fixed problem in transform wizard where it was rewriting sql and making joins in the from clause invalid
- Fixed slow performance when running scheduled syncs
- Fixed intermittent problem where scheduled syncs could lock up
- Fixed a problem with license counts
- Fixed issue where error condition still triggered on success task
- Fixed issue where the target schema was not being created in a transform.
- Fixed problem where a sync would fail when column names contained single quotes.
- Fixed problem where if a scheduled sync failed because of a crash, it did not properly detect it and trigger the failure task.

Excel Add-In

- Corrected update error when a column name had spaces in it
- Corrected problem where the add-in would no longer access data if any changes were made in the connection
- Corrected display problems when running Excel on Windows 10 with certain laptop displays
- Corrected a problem when editing a row in an Adabas table that contains null column. The commit caused an incorrect “no unique row” error even though the row was unique

RCI

- Fix for issue where stored procedures that return result sets were not always reporting the correct column count in the RCI interface.

JDBC Server

- Fix for java executeQuery - if the execute failed the whole statement handle was being closed
- Show warning message in the DSN Registry tool when a new DSN exceeds the 50-character limit and provide an opportunity to correct the >50 characters error

License Server/Licensing

- Adding Hyper threading compensation for SQL Server core checks
- Fix for core count logic if there are multiple connections in the CDD pointing to the same server.

Configuration Manager

- Fixed issue where it was reading/writing from 32bit when 64 was selected and 64bit when 32bit was selected. This affected the CONNX key only

Install

- Fixed missing or non-working shortcut keys in UNIX Client Setup, CONNX Server Setup, License Admin, and Adabas SQL Gtwy Emb SQL Setup
- Fixed issue where references uninstalled items were being left in the menu
- Fixed issue in the Windows logon validation logic which failed if the password contained ‘&’ or ‘#’
- Corrected problem where the file association for .CDD was incorrect if CONNX was installed in a location other than the default location